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EXAMINER

AN, SHAWN S

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/355,991

Applicant(s)
Yuji Yamamoto

Examiner
Shawn An

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 24, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-19, and 22-25 is/are rejected.
- 7) ☒ Claim(s) 13, 14, 20, and 21 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3 6) ☐ Other:

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DETAILED ACTION

Response to Election Requirement

1. Applicant's election with traverse of Species II, which reads on Fig. 4 and directed to claims 1-6 have been acknowledged.

In view of the Applicant's response, the Examiner reconsiders and withdraws the Election/Restriction Requirement.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-7 and 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Tahara (5,633,682).

Regarding claims 1 and 2, Tahara discloses a digital broadcast receiver, comprising: receiving means (Fig. 6, 30 and 31; Fig. 13, 79, 81, and 90) for demodulating and decompressing received video data and outputting pixel data; and

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determining means (32, 85) for detecting characteristic of the video data, and determining whether the video data is video data in accordance with a stereoscopic broadcasting method;

Regarding claim 3, Tahara discloses video data is first video data (Fig. 5, 41) in accordance with the stereoscopic broadcasting method; and the determining means (Fig. 6, 32) determines whether the received video data is the first or second video data.

Regarding claim 4, a video frame inherently comprises pixel data arranged in a matrix in horizontal and vertical directions. Furthermore, Tahara discloses the first video data constituting the arrangement by a first block (Fig. 14, Even Field) including pixel data for the right eye, and a second block (Odd Field) including pixel data for the left eye.

Regarding claim 5, Tahara discloses the determining means including storing means (Fig. 6, 33; Fig. 13, 87) for receiving and storing the pixel data of a specific area of the first block, and second block corresponding to specific area of the first block; and

processing means (32, 85) for comparing the pixel data of specific area of the first block with the pixel data of specific area of the second block for determining and outputting whether received video data is the first or the second video data.

Regarding claim 6, Tahara discloses reproducing and displaying with interlace scanning method (Fig. 23). Even though Tahara does not display non-interlace scanning method, it is conventionally well known (inherency emphasized) to display the decoded video data in at least two formats including an interlace scanning, and non-interlace (progressive) scanning.

Regarding claim 7, Tahara discloses a display apparatus, comprising:

separation means (Fig. 20, 102) for separating and outputting a synchronous signal from a received video signal;

determining means (102) for determining video signal is in accordance with a stereoscopic broadcasting method; and

display means (101) for displaying to the user based on the result of determination by the determination means.

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Regarding claim 23, Tahara discloses a video data recording apparatus, comprising:

video processing means (Fig. 5, 41-43) for forming video data of one channel by arranging an image corresponding to a first video signal and a second video signal different from each other, divided into upper and lower portions on one image plane;

compressing means (Fig. 6, 1) for compressing video data;

recording means (Fig. 6, 3) for recording the compressed video data on a recording medium.

Regarding claim 24, Tahara discloses a video data reproducing apparatus, comprising:

reproducing means (Fig. 6, 30) for reproducing the compressed video data from the recording medium;

decompressing means (Fig. 6, 31) for decompressing the reproduced compressed video data; and

video recovery means (Fig. 6, 38) for receiving the decompressed video data for recovering the first and second video signal.

Regarding claim 25, Tahara discloses a video data recording and reproducing apparatus, comprising:

video processing means (Fig. 5, 41-43) for forming video data of one channel by arranging an image corresponding to a first video signal and a second video signal different from each other, divided into upper and lower portions on one image plane;

compressing means (Fig. 6, 1) for compressing video data;

recording means (Fig. 6, 3) for recording the compressed video data on a recording medium;

reproducing means (Fig. 6, 30) for reproducing the compressed video data from the recording medium;

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decompressing means (Fig. 6, 31) for decompressing the reproduced compressed video data; and

video recovery means (Fig. 6, 38) for receiving the decompressed video data for recovering the first and second video signal.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-10, 15-16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara (5,633,682) in view of Katayama et al (6,141,036).

Regarding claim 8, Tahara discloses a display apparatus, comprising:

separation means (Fig. 20, 102) for separating and outputting a synchronous signal from a received video signal;

determining means (102) for determining video signal is in accordance with a stereoscopic broadcasting method;

display means (101) for displaying to the user based on the result of determination by the determination means; and

reproducing and display means (101) for reproducing and displaying the first/second video signal on the monitor.

Tahara does not particularly disclose a user selecting different formats in accordance with a plurality of broadcasting method (proper display mode).

However, Katayama et al teaches a user selecting different formats (col. 8, lines 15-25).

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Therefore, it would have been considered quite obvious to a person of ordinary skill in the relevant art employing a digital broadcast receiver as taught by Tahara et al to incorporate the concept of selecting different formats as taught by Katayama et al so that the formatter formats in accordance with a stereoscopic method if selected by an user, otherwise just display video data in a conventional manner (monoscopic), irregardless of user's selection.

Regarding claim 9, Tahara discloses an image plane for a right eye video signal obtained by interlace scanning method and an image plane for a left eye video signal obtained by interlace scanning method (Fig. 18). Furthermore, it is well known in the art for video signal to be obtained in the interlace scanning mode or non-interlace scanning mode (progressive scanning). Therefore, it is considered quite obvious to obtain a video signal by progressive scanning or interlace scanning method.

Regarding claim 10, vertical or horizontal (H, V) synchronizing signal is well known in the art such as Ito et al's (5,734,416) Fig. 5. Therefore, it is considered quite obvious to vertical synchronize the first video signal if a stereoscopic video signal or obviously vary different frequency for the first video signal if a non-stereoscopic (conventional) video signal.

Regarding claims 15- 16, Tahara discloses a digital broadcast receiver, comprising: receiving means (Fig. 6, 30 and 31; Fig. 13, 79, 81, and 90) for demodulating and decompressing received video data and outputting pixel data; and formatting means (32, 85) for formatting signal output from the receiving means; wherein the formatting means performs formatting in accordance with a stereoscopic display method.

Tahara does not particularly disclose a user selecting different formats (proper display mode).

However, Katayama et al teaches a user selecting different formats (col. 8, lines 15-25).

Therefore, it would have been considered quite obvious to a person of ordinary skill in the relevant art employing a digital broadcast receiver as taught by Tahara et al to incorporate the

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concept of selecting different formats as taught by Katayama et al so that the formatter formats in accordance with a stereoscopic method if selected by an user, otherwise just display video data in a conventional manner (monoscopic), irregardless of user's selection.

Regarding claim 22, Tahara discloses an image plane for a right eye obtained by interlace scanning method and an image plane for a left eye obtained by interlace scanning method (Fig. 18).

6. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara and Katayama et al as applied to claims 9 and 10 above, respectively, and further in view of Kondo et al (6,304,243 B1).

Regarding claims 11 and 12, the combination of Tahara and Katayama et al does not specifically disclose well known reference clock generating means, count means, latch means, control signal generating means, and processing means.

However, Kondo et al teaches the conventionally well known reference clock generating means (Fig. 5, CK), count means (1401), latch means (1394), control signal generating means (Fig. 2, 4), and processing means (6 and 8).

Therefore, it would have been considered quite obvious to a person of ordinary skill in the relevant art employing a broadcast receiver as taught by Tahara to incorporate the clock generating means, count means, latch means, control signal generating means, and processing means as taught by Kondo et al so that the processing means obtains the count value from the latch means and compar the count value from the latch means for determining whether video signal is stereoscopic or monoscopic, and when the count value is not received then determine that the sync signal is different from the first and second broadcasting methods, and the control signal generating means generate a control signal to cause the latch means latch the count value, causing the count means to reset the count and cause the processing means to take the count

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value latches by the latch means for effectively displaying different modes such as stereoscopic, monoscopic, autostereoscopic display, etc.

7. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama et al (6,141,036) in view of Tahara (5,633,682) and Omar et al (6,449,090 B1).

Regarding claim 17, Katayama et al discloses a broadcast receiver, comprising:
determining means (Fig. 4, 206) for determining whether the received video data is stereoscopic video data or video data different from the stereoscopic video data;
selecting means (201) operated by an user for selecting a stereoscopic display method;
formatting means (Fig. 5) for formatting a signal output from the receiving means; and
control means (202) for determining display methods for reproducing and displaying the received video data, and controlling formatting by the formatting means.

Katayama et al does not specifically disclose receiving means for demodulating and decompressing received video data and outputting pixel data, and selecting from a plurality of stereoscopic display methods.

However, Tahara teaches a digital broadcast receiver comprising receiving means (Fig. 6, 30 and 31; Fig. 13, 79, 81, and 90) for demodulating and decompressing received video data and outputting pixel data, and Omar et al teaches having a plurality of stereoscopic display methods.

Therefore, it would have been considered quite obvious to a person of ordinary skill in the relevant art employing a broadcast receiver as taught by Katayama et al to incorporate the concept of receiving means for demodulating and decompressing received video data as taught by Tahara so as to convert the compressed video data into decoded format, and also incorporate the concept of having a plurality of stereoscopic display methods as taught by Omar et al so that the user can select one stereoscopic method among the plurality of stereoscopic display methods for entertaining user's preference of desired stereoscopic display mode.

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Regarding claim 18, Katayama et al discloses an image plane for a right eye and a left eye video images obtained by interlace scanning, and the stereoscopic display method providing display by video images of one or two channels (Fig. 5).

Regarding claim 19, Katayama et al discloses a user selecting different formats (col. 8, lines 15-25). Therefore, it would have been considered quite obvious to a person of ordinary skill in the relevant art to incorporate the Katayama et al's concept so that the formatter formats in accordance with a stereoscopic method if selected by an user, otherwise just display video data in a conventional manner (monoscopic), irregardless of user's selection.

Allowable Subject Matter

8. Claims 13-14 and 20-21 are objected to as being dependent upon a rejected base claims 8 and 8 and 17, respectively, but would be allowable: if claim 20 is rewritten in independent form including all of the limitations of the base claim 17 and any intervening claims; and if claim 13 or claim 14 is rewritten in independent form including all of the limitations of the base claim 8 and any intervening claims.

Dependent claims 13-14 recite novel features of the display apparatus, wherein the reference value is determined from frequency of the vertical sync signal and frequency of the vertical sync signal in the first signal in accordance with the second broadcasting method and repetition frequency of the clocks.

Dependent claims 20-21 recite novel features of the digital video broadcast receiver, wherein the formatting means include first and second storing means, input switching means, level data output means, and first and second data switching means.

Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled, the application would be placed in condition for allowance

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Conclusion

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.
- A) Tahara et al (5,612,735), Digital stereoscopic video compression technique utilizing two disparity estimates.
 - B) Ito et al (5,734,416), stereoscopic picture display unit.
 - C) Endo et al (5,887,079), Image processing apparatus.
10. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn An whose telephone number (703) 305-0099 and schedule are Tuesday-Friday.



SSA

SHAWN S. AN
PATENT EXAMINER

December 26, 2002